

### **What is claimed is:**

**[Claim 1]** 1. A method of determining the time for executing optimal power calibration applied in a closed loop control circuit of a laser diode in an optical drive, the method comprising:

receiving a driving signal output from a compensator;  
transforming the driving signal to a driving signal value by an analog to digital converter;  
transforming the driving signal value to a temperature value according to a look up table; and  
executing the optimal power calibration when the temperature value is higher than a predetermined temperature.

**[Claim 2]** 2. The method of claim 1 wherein relationships between the driving signal value and the temperature value are recorded in the look up table.

**[Claim 3]** 3. The method of claim 1 wherein the look up table is stored in a read only memory.

**[Claim 4]** 4. The method of claim 1 further comprising:

transforming a digital control signal to an analog control signal by a digital to analog circuit;  
the compensator receiving a difference of the analog control signal and a feedback signal to generate the driving signal;  
an amplifier receiving the driving signal and outputting a driving current;  
the laser diode receiving the driving current and generating a laser beam; and  
a front monitor diode receiving the laser beam to generate the feedback signal.

**[Claim 5]** 5. A method of determining the time for executing optimal power calibration applied to a closed loop control circuit of a laser diode in an optical drive, the method comprising:

receiving a driving signal output from a compensator;  
transforming the driving signal to a driving signal value by an analog to digital converter; and  
executing the optimal power calibration when the driving signal value is higher than a driving signal threshold value.

**[Claim 6]** 6. The method of claim 5 wherein the driving signal threshold value is stored in a read only memory.

**[Claim 7]** 7. The method of claim 5 further comprising:

transforming a digital control signal to an analog control signal by a digital to analog circuit;  
the compensator receiving a difference of the analog control signal and a feedback signal to generate the driving signal;  
an amplifier receiving the driving signal and outputting a driving current;  
the laser diode receiving the driving current and generating a laser beam; and  
a front monitor diode receiving the laser beam to generate the feedback signal.